Credit Name: CSE 2110 Procedural Programming 1
Assignment Name: Prime Number Mastery
How has your program changed from planning to coding to now? Please explain?

PLANNING:

I plan to declare variables, set scanner, store userinput integer, and use a boolean statement for the program to decide which statement to print at the end. To calculate if a number is prime or not, I will automatically set inputs of 0 and 1 as “not prime”, and all other inputs can be placed in a for statement. If the number is divisible by 2, it is not prime, and all other inputs are prime.

CODING:

```
//Declare the variables
int user;
boolean n;
int i;

//prepare scanner for userinput later in program
   Scanner input = new Scanner(System.in);

//prompt user intro message
   System.out.println("This program will decide if the number you enter is a prime number or not.");

   //prompt user for integer
   System.out.println("please enter an integer:");
   user = input.nextInt();
```

Prepare scanner for userinput, and prompt the user the intro message introducing/explaining the purpose of the program. Next I prompt user for an integer and stored the value in the “user” variable.

```
   //boolean value n is set to false
  n = false;

   //0 and 1 aren't prime numbers
   if (user == 0 || user == 1) {

      n = true;

   }

   for ( i = 2; i<= user/2; ++i ) {

       //conditional statement for non-prime numbers:
       if (user % i == 0) {

           n = true;
           break;
       }
   }
```

Boolean n is set to false. If input is 0 or 1, input is not prime. To print the statement “not prime”

we must set n to true. For statement contains a conditional if statement which divides the input by 2. If input is divisible, n will be set to true, and it will print “not prime.” Otherwise, n is false and it will print “it is prime.”

```
//if number is divisible, it isn't a prime number, and if nu
if (!n) {

    System.out.println( user + " is a Prime Number");
}

else {

    System.out.println( user + " is NOT a Prime Number");
}
```

If n is false, then program will print (input + “is a prime number”)
If n is true, then program will print (input + “is NOT a prime number”)

End of Program!